

26

12pmc147

HOUSE OF EDUCATION, AMBLESIDE.

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DATE 1923. FORM

SUBJECT
E.S.A., LONDON.

CINC 117

12pm on 147

1925.

Astronomy.

Nov 20th

Pleades BULL

ARIES

Capella.

Andromeda

Perseus

Regulus

Cassiopeia

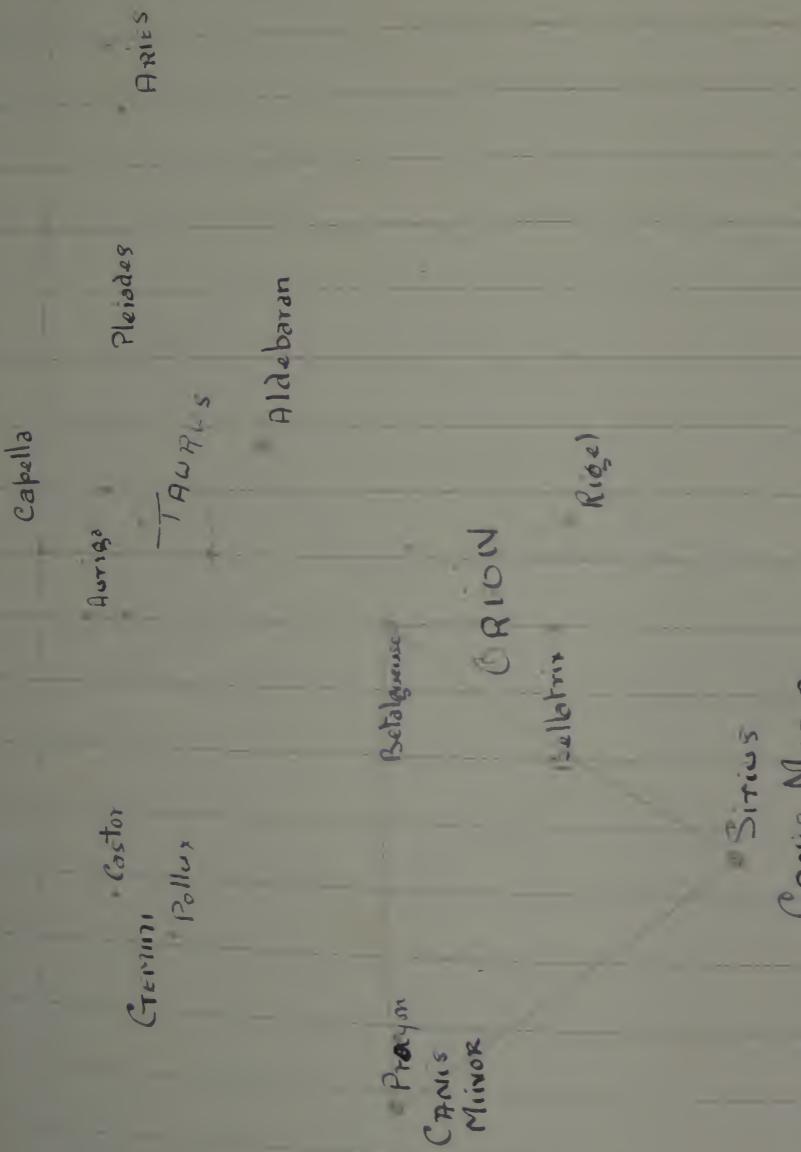
Cepheus Pole Star

Vega

Ursa Major

12 p3 cme 147

12 p4 cme 147

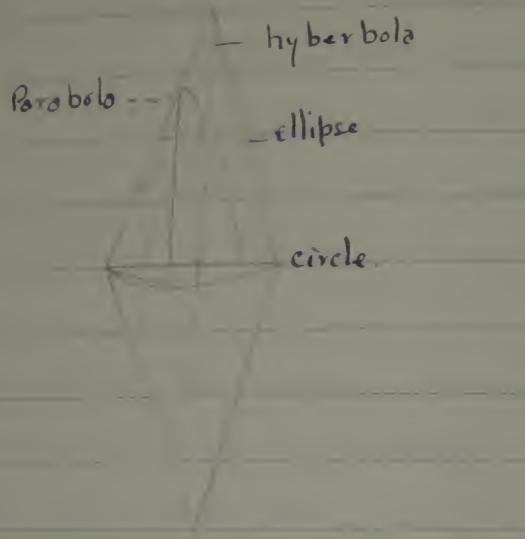


Declination N.S. of the celestial equator corresponds to earthly latitude
Right Ascension corresponds to earthly longitude - but the degrees are reckoned right round instead of 179° E & 179° W.

Halley's Comet appeared 1531, 1607, 1682
He, Halley, predicted that it would again appear in 1759. He did not live to see the fulfillment of his prophecy. He was Newton's friend & applied his law of gravitation to the comets. The comet appeared again in 1910, 27 months before it was expected. This ~~was foreseen~~ to be because in 1835 it passed so close to Jupiter that the latter's attraction changed its orbit. Halley's comet also appeared in 240 B.C., 66 A.D., & 1066.

The orbit of a comet is a parabola - the conic section taken parallel to the axis. That is, of those comets which return. There are also periodic comets, whose orbits are elliptical, usually much elongated.

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Architecture

Nov. 26th

Early English Period

1189 or 1199 to 1272 Lancet
 12⁴⁵ - 1307 Geometrical

Arches: Equilateral Lancet



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Long narrow windows did not give much light, so they were grouped together.

Whitby
 Hexham
 Salisbury Cathedral
 Lincoln
 " "
 Wells
 Westminster Abbey.
 Southwark Cath.
 Tivoro .. (Modern)

Characteristics:

2 arches under one in doorways or triforium arcade
 Clustered pillars
 Bell capitals & stiff-stemmed foliage ones (carved)
 Grooves in the mouldings.
 Ornament: dog-tooth
 Flying Buttresses [4 at Westminster]
 All arches - windows doors etc. - either lancet or equilateral.

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Astronomy.

Nov. 27th

Gemini

P

CANCER

Vega

HERCULES

Bootes

CORONA BOREALIS

Arcturus

Deneb.

Regulus

Leo

LIBRA

Spica

SCORPIO

Antares

Periodic Comets

of long period - (40)

short .. (20)

* parabolic comets

Periodic comets are those 'captured' by the planets i.e. who were close enough to the comet at its appearance to change its orbit & force it to travel round the sun in an ellipse continuously & thereby, to make periodic appearances.

Parabolic comets are those which whirl into our solar system from space round the sun & as quickly swing out again, perhaps never to return.

The tail of a comet is always turned away from the sun, a fact which may be due to the pressure of light.

A comet is self-luminous; & very light in weight. - Air of the same volume is 4 or 5 thousand times heavier than the comet, so that the mean density of a comet is less than air. We may ^{understand} see stars through the tail of a comet. This does not prove that a comet is made up of

contain carbon. It is

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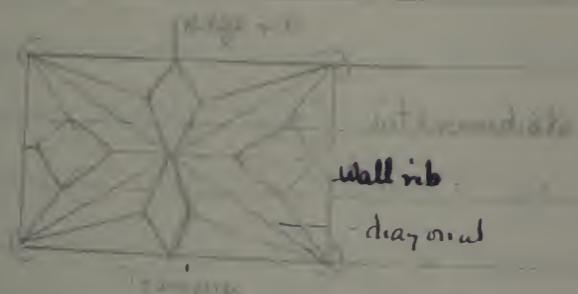
gaseous matter; observations have shown that there are a large number of small solid bodies compose the comet's head or nucleus.

V9. Shooting Stars are not proper stars. They are lumps of matter which, when they enter our atmosphere become luminous. Travelling at 30 miles per sec. gives them tremendous heat & our atmosphere has the effect of ~~burning~~ ^{igniting} them.

Architecture.

Dec. 3rd '23.

Decorated Period 1272 or 1307 till 1377.



diagonal ribs
transverse ..
ridge & wall ..
intermediate ..
lierne

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Characteristic decoration of Melrose Abbey: curling foliage flowing round the capitals.

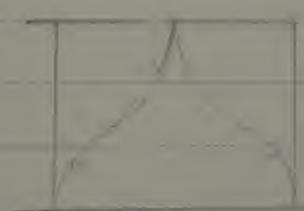
Characteristics of Period

1. Ball flower ornament - seen in Lincoln
2. Plate & Bar tracery.
 1. Large surfaces of blank stone left ^(cups)
 2. Thin lines

In the latter therefore, grooves were able to be used.

Ruskin thought that the architects were inspired to design by the thought of the shape of the light that would come through.

3. Curvilinear tracery, one form of which is reticulated tracery.
4. Lierne Vaulting.
5. Pier - clustered pillars in solid masonry - not detached.



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Astronomy

Dec 4th 23.

Meteors radiate from one of the constellations.

In Nov. 1833

- 1866 - every 33 years - Leonids
- " (end) every 13 years Andromedids
- August - Perseids
- April - Lyra.

After the shower of meteors in 1866, it was discovered that Tempel's comet had the same orbit as the Leonids.

Nov. Andromedids } Biela's comet 1845, 1852
every 13 yrs. 1872, 1885, 1898 } Biela's

Capella R = 5½ hrs Dec. = + 45°

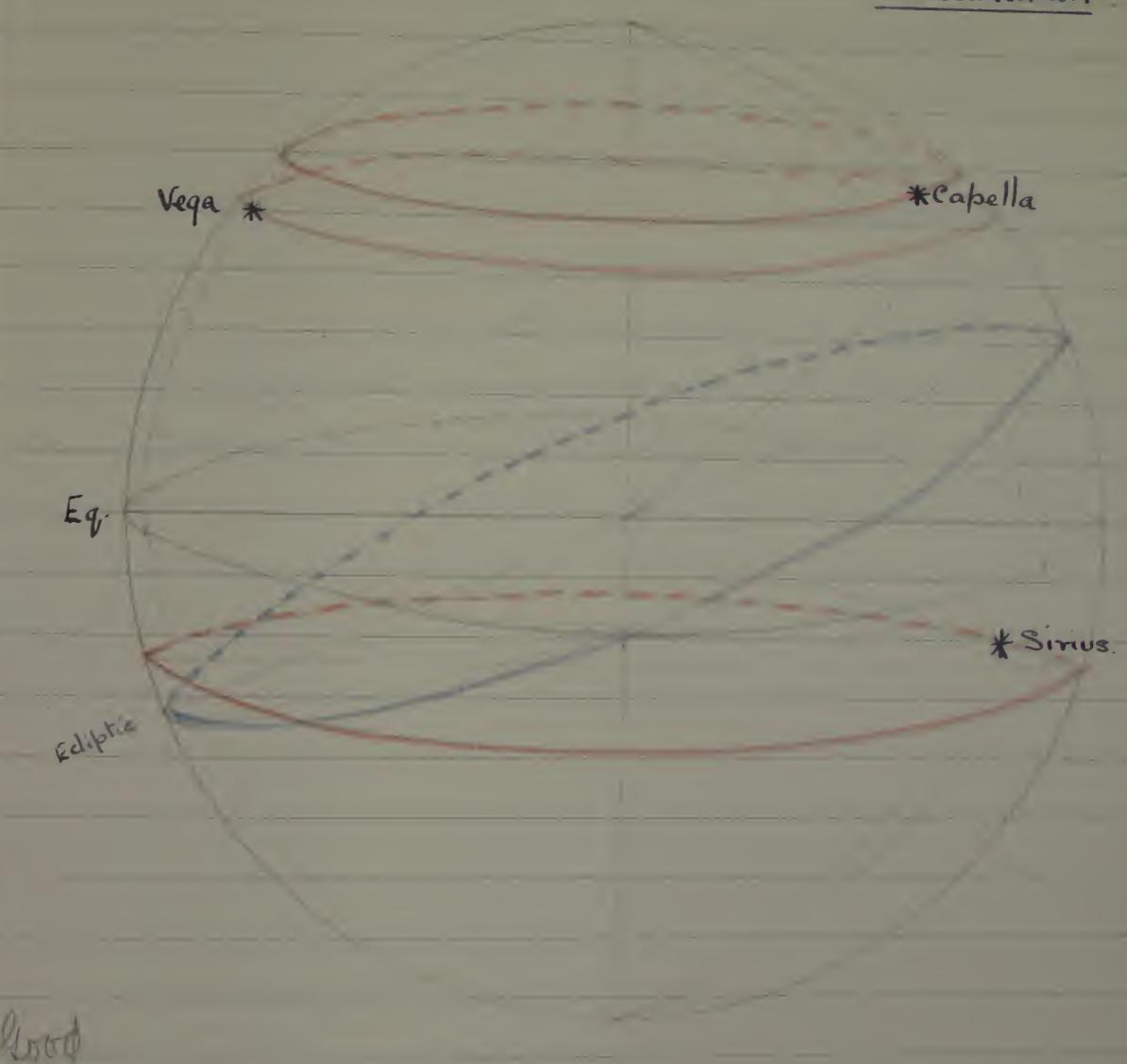
Vega R = 18½ hrs Dec. = + 39°

Sirius R = 7 hrs Dec. = - 17°

Altair R = 11 hrs Dec. = + 20°

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Diagram showing the placing of stars by Right ascension & declination



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Architecture

Dec. 10th '23

Perpendicular 1377-1485

Tudor 1485

Characteristics:

Transoms, or lines (horizontal) across the windows

Parapets are often battlements.

Black stone & white stone characterises the East
Anglian churches

Central towers & gateways.

Doorways & porches in rectangles

Panelling.

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Astronomy

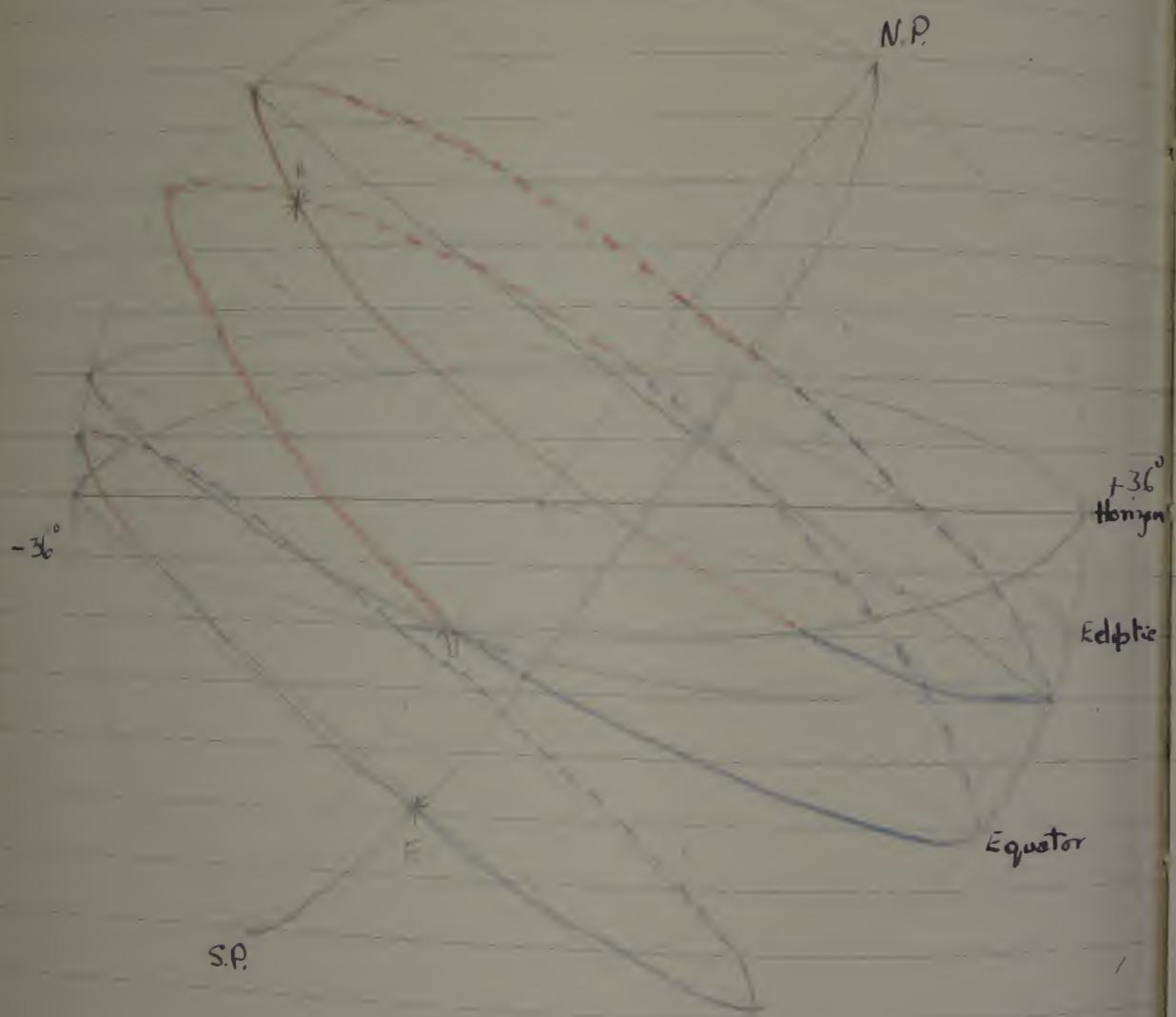
Dec. 13th

The Sidereal day is 23 hrs. 56 mins. i.e.
nearly 4 mins shorter than the solar day.



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Celestial Sphere for an observer in Ambleside ($54^{\circ} N$)



Fomalhaut RA: 23 hrs Dec: -30°
Aldebaran RA: 4 $\frac{1}{2}$ hrs Dec: $+16^{\circ}$